circular rocky bay open to the east; a camp was pitched on an island erupted in 1878. The floor at 50 fm. and deeper was ridged by lava lines with deep chasms between, the feeding ground of Nautilus. A coconut plantation covered the low ground and was an oasis of civilization due to Parkinson, almost a 'king'. The island had been partially subdued by that warlike missionary, George Brown, but conditions were primitive in the extreme, the natives still in the stone age, and Willey was in constant danger, but at all times quite imperturbable. Here in the primitive native canoes with a 'boy' or two, he went out day by day, laying his baskets, hand trawling and sweeping his surface nets, returning to an open shelter and cooking his taro, breadfruit or yam with an occasional fish, a tunicate flavour often added from his experimental colonies. 'New Guinea, to which he went next, was even worse, the natives being flesh rather than fish eaters. It was alleviated by the purchase of a small sailing cutter. The D'Entrecasteau and Conflict Groups were visited and Willey was anchored off Buna for some time.

When sailing, one of the boys jumped overboard to secure a floating cuttle bone and off this, when placed in a pan of water, were secured quite a number of organisms, including some which could both crawl and swim. These proved to be Ctenoplana, a single specimen of which had been described in 1886. As it crawls it is a flatworm, and as it swims a ctenophore, transparent and provided with swimming plates. This important intermediate form, later worked out in Haswell's laboratory at Sydney, made up for many disappointments. There was also a lancelet, Asymmetron, previously caught only in the Bahamas but now known to be cosmopolitan.

New Guinea proving unsuitable for Nautilus, a move was made via New Caledonia to the Loyalty Islands in the New Hebrides, even then governed by a condominium between France and England. Off Noumea, an enteropneust, Ptycodera, was found; this with later specimens was the subject of a long memoir, a comparison with West Indian forms and Amphioxus. A settlement was finally made at Sandal Bay, Lifu, and here for eight months Willey tried to make his Nautilus breed, but its heavily yoked eggs were always infertile. The island population (7,000) were enjoying the everlasting Catholic v. Protestant fights, and so far as the French authorities were concerned there was, as usual, little generosity. Land as well as marine animals were collected and on these more than thirty memoirs were published in the "Zoological Results"; Willey's special contribution among these was on a primitive beast from Rabaul, *Peripatus novae-britanniae*; this gave him great pleasure as he had an unbounded admiration for F. M. Balfour, whose classical memoir on *Peripatus capensis* he greatly admired. A further visit to New Britain terminated two years of field research.

On his return, Willey became lecturer in biology at Guy's Hospital, London, and he was shortly after elected to the Royal Society. He did not like this soul-killing job, and social conditions in England were to him unpleasant, while the climate was anathema. He was hence glad to go to Colombo as director of its Museum, a post he held from 1902 until 1910. Here in Ceylon he found a fauna little known except for Kelaart's Prodrum, 1892. He supposed he would find many animals peculiar to the island and a fauna comparable to the flora as described by Tennant and Trimen. He set out to examine the mammals but found no important forms not already

known from southern India. The phenomena of endemism were best represented in the reptiles, now being monographed by Deraniyagala. The fauna is analogous with those of Great Britain and Tasmania in relation to their neighbouring continents, but there proved to be relationship to the East Indies. Educational requirements were the subject of several reports, as also the sea and freshwater fisheries and various molluscs. The Museum began to take a scientific shape, no longer merely a collection of curiosities. It was an uphill job at first, the attitude of the ruling authorities being deplorable, while collectors seldom appreciated the necessity of accurate data. The *Spolia Zeylanica* was founded as a quarterly journal, since when zoology in Ceylon has never looked back. Willey's own researches wandered into the marine worms connected with the pearl banks. As an amusement he was collecting data for a book, "Convergence in Evolution", which at the time created great interest among students, stimulating the closer study of the living forms.

In 1911 Willey commenced his courses at the McGill University, where he remained for the rest of his life. From here he always wrote happily of his teaching and life in the University—and as an adopted son of Canada. He had a research interest which wandered into every side of animal life, plankton, placentation in the beaver, Branchioderma and Branchiotrema, general marine conditions, Arctic Copepoda and even a research on "Reductions and Reversions in the Wing Venation of the Stoneflies". He was called upon to advise on many economic sides, and Macallum paid high tribute to the value of his opinion. The University Club especially interested him, and with age he became less sensitive and retiring, while preserving a pleasant liveliness in disposition. He acquired a solid popularity, for he was always dependable. J. S. GARDINER.

Prof. F. M. Cornford, F.B.A.

PROF. F. M. CORNFORD, who died at Cambridge on January 2, at the age of sixty-eight, was the first occupant of the chair of ancient philosophy established there in 1931. He became a fellow of Trinity in 1899, and was a lecturer in classics until his election to a readership in 1927.

His published work was abundant and falls naturally into two periods, divided by the War of 1914–18 during which he served in the Ministry of Munitions. The earlier period is especially marked by an interest in the origins of Greek philosophy, and in the religious conceptions from which it developed. Thus the leading principle in "From Religion to Philosophy" (1912) is a distinction between the 'mystical' school, represented by Heraclitus, Pythagoras, Empedocles and Plato, a school which seeks primarily to preserve what the religious consciousness values, and a scientific school, including Anaxagoras, the Atomists and others, which tends to discard religion for rationalism. In "The Origin of Attic Comedy" (1914) he sought to explain the structure of the extant plays by examining the ritual forms which lie behind them; here he was influenced by the work of Jane Harrison and Frazer. An earlier work, "Thucydides Mythistoricus" (1907), was a daring re-interpretation of the historian's mental background and of the religious framework which governed the selection and presentation of his material.

It is no disparagement of these earlier and more speculative works to say that Cornford's most permanent achievement is to be found in the post-war books, "Plato's Theory of Knowledge", "Plato's Cosmology" and "Plato and Parmenides", in which he translated and interpreted four important Platonic dialogues. Departing from the ordinary form of commentary, he skilfully interwove translation with running comment in such a way as to produce books which can be read as continuous wholes. To readers with scientific interests the edition of the "Timæus" called "Plato's Cosmology" will probably appeal most strongly: it reveals perhaps most fully its author's many-sided knowledge and power of argument; few classical scholars could have dealt so successfully with the problems of astronomy and physics, physiology and medical theory which the "Timæus" presents.

Jointly with P. H. Wicksteed he translated Aristotle's "Physics" in the Loeb series, and the notes and summaries marked by his initial show how competent he was to interpret Aristotle's discussion of such fundamental concepts of science as time, space, movement and infinity. About a year ago his last book appeared, a translation of the "Republic", of which it can only be said here that it is more than a translation, and makes an excellent introduction to Plato for the 'unprofessional' reader.

Much important work of Cornford's is contained in periodicals, especially in the *Classical Quarterly*: it includes an examination of the Pythagorean number-doctrine, a paper on "Innumerable Worlds", and a new interpretation of Anaxagoras's theory of matter. Finally, his chapters on philosophy down to Aristotle in the "Cambridge Ancient History" can be warmly recommended to anyone wishing to make a first acquaintance with ancient thought.

R. HACKFORTH.

Sir Henry Maybury, G.B.E., K.C.M.G., C.B.

SIR HENRY MAYBURY, who died on January 7 at the age of seventy-eight, was a wholesome-looking, thick-set man with a capable headpiece, a general friendly attitude towards his fellows and a tendency to come to decisions to which he adhered with what admirers called his determination and critics his obstinacy. His first fame came when he was surveyor to the County of Kent (1903). That was about the time when a friend and I were organizing the Gordon Bennet motor race in Ireland. Its description by a jarvey illustrates the position: "Those parts of Oireland that's not consailed wid dust is covered wid people".

In circumstances like these, Maybury made his successful efforts in Kent to abate the intolerable dust which cursed the early days of the motor era. He courageously used tar-bound instead of water-bound macadam, and soon found he had achieved the great advance of making roads waterproof. He pushed forward with it with insistence, was hailed as a saviour by the owners of riparian property, and made Kent roads a model for the rest of the country.

Somewhere on Salisbury Plain a number of consecutive lengths of road all bearing the same traffic (that is, with no side junctions) and suitable for considerable speeds were prepared, each according to a different formula. The run being substantially free from bends and the surface level, it called for no stops, starts, accelerations, swerves or brakings. As these are the chief causes of road wear, no perceptible

deterioration or wear by vehicles revealed itself. What did transpire was that the waterproofing with tar, bitumen or the like minimized what is a substantial source of road costs, even in unused roads, namely, land creepage, vegetation, weeds and, above all, deterioration by sun, rain and frost. The waterproofing would pay for itself in upkeep economy. Before long, water-bound macadam, gravel, and slippery roads made with chalky marl began to disappear.

Maybury was no researcher. His training as a railway engineer inclined him rather to the *ad hoc* experiment. Besides, the Harmondsworth Research Station for road materials to which so much of recent progress must be referred was not then in its stride. As chief engineer to the Road Board (1913) and later as chairman of the London and Home Counties Traffic Advisory Committee (from 1924) he accumulated much traffic experience. There came before him the noteworthy reports of the Metropolitan Police between 1920-27. They revealed year after year for seven years that high vehicle speeds occupied a far smaller place in the records of fatal accidents in town than did low speeds. Speeds not exceeding walking pace (less than 5 m.p.h.) were concerned in six times more deaths than were all speeds above 20 m.p.h. Moreover, a predominant majority (80 per cent) of fatal accidents occurred when the previous speed of the vehicles involved had been less than 15 m.p.h. On this Sir Henry Maybury's ripe experience led to the notable phrase often quoted from Report No. 61434-12: "A careful examination of these reports clearly indicates that there is an intimate connexion between the number of street accidents and traffic congestion". That was a new idea.

The moral is clear. Unfortunately for safe traffic flow afoot or awheel in Greater London, Sir Henry resigned in 1933, and now many of us sincerely deplore the final loss of his clear-sighted "obstinacy".

MERVYN O'GORMAN.

Prof. F. J. Allen

DR. FRANK JAMES ALLEN died on December 28 at Letchworth; he was born in Somerset in 1854. He went to Cambridge to study medicine and came under the influence of Michael Foster, and was one of the many physiologists who was inspired by that great teacher. He was awarded first-class honours in the Natural Sciences Tripos in 1878. He went to St. George's Hospital, London, where he studied clinical medicine, and later became an assistant medical registrar at that Hospital.

Sometime after qualifying in medicine, Allen returned to Cambridge as assistant demonstrator in physiology under Foster. He was elected a member of the Physiological Society in 1888, and later became a member of the Committee of that Society. He was appointed professor of physiology at Mason College, Birmingham, in 1888, and played a part in the negotiations which led to the formation of the University of Birmingham. He resigned his professorship in 1898 to enter general practice.

While in Birmingham, Prof. Allen gallantly captured a dog suffering from rabies and in doing so he was bitten by the animal. He went to the Pasteur Institute in Paris for treatment, and described his experiences as a patient at the Institute in the *Birmingham Medical Review* of 1898. The success of the treatment he received at the Institute is evident by the fact that he lived for a further forty-five years.